

Notice of Allowability

Application No.

10/807,069

Examiner

Karl J. Puttlitz

Applicant(s)

BOGAN ET AL.

Art Unit

1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Reply filed 5/17/2005.
2. ☒ The allowed claim(s) is/are 8.
3. ☒ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

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REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

The outstanding rejection of claim 8 under section 103 is withdrawn over US 993 (Ushikubo). Specifically, the catalysts taught by Ushikubo is a multiphase catalysts, which include the hexagonal phase, whereas the hexagonal phase is substantially absent from the catalysts used in the process of the present invention. Thus, Ushikubo fails to suggest the process of the present invention as recited in Claim 8.

Moreover, the process of claim 8 requires that the process for producing an unsaturated carboxylic acid occur in the presence of an orthorhombic phase mixed metal oxide catalyst, which Ushikubo fails to teach or suggest in any way.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl J. Puttlitz whose telephone number is (571) 272-0645. The examiner can normally be reached on Monday to Friday from 9 a.m. to 5 p.m.

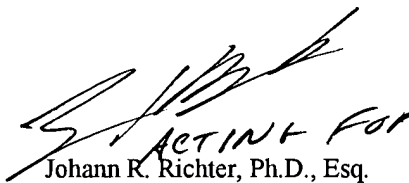
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter, can be reached at telephone number (571) 272-0646. The

Art Unit: 1621

fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Karl J. Puttlitz
Assistant Examiner



ACTING FOR
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DB Not San

DN A01224A
US Ser. No. 10/807,069
Amendment filed May 17, 2005

PATENT

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the present application:

Claim 1 (Cancelled).

Claims 2-7 (Cancelled).

8. (Previously Presented) A process for producing an unsaturated carboxylic acid which comprises subjecting an alkane, or a mixture of an alkane and an alkene, to a vapor phase catalytic oxidation reaction in the presence of an orthorhombic phase mixed metal oxide catalyst, produced by a process comprising:

(a) admixing compounds of elements A, V, N and X and at least one solvent to form a solution,

wherein A is at least one element selected from the group consisting of Mo and W, N is at least one element selected from the group consisting of Te, Se and Sb, and X is at least one element selected from the group consisting of Nb, Ta, Ti, Al, Zr, Cr, Mn, Fe, Ru, Co, Rh, Ni, Pt, Bi, B, In, Ce, As, Ge, Sn, Li, Na, K, Rb, Cs, Fr, Be, Mg, Ca, Sr, Ba, Ra, Hf, Pb, P, Pm, Eu, Gd, Dy, Ho, Er, Tm, Yb, Lu, Au, Ag, Re, Pr, Zn, Ga, Pd, Ir, Nd, Y, Sm, Tb, Br, Cu and Sc,

wherein A, V, N and X are present in such amounts that the atomic ratio of A : V : N : X is a : b : c : d, and

wherein, when a = 1, b = 0.01 to 1, c = 0.01 to 1 and d = 0.01 to 1;

(b) admixing a seeding effective amount of an orthorhombic phase mixed metal oxide seed, substantially free of hexagonal phase mixed metal oxide, with said solution to form a seeded solution,

- (c) removing said at least one solvent from said seeded solution to form a catalyst precursor; and
calcining said catalyst precursor to obtain said orthorhombic phase mixed metal oxide catalyst.

9. (Previously Presented) A process for producing an unsaturated nitrile which comprises subjecting an alkane, or a mixture of an alkane and an alkene, and ammonia to a vapor phase catalytic oxidation reaction in the presence of an orthorhombic phase mixed metal oxide catalyst, produced by a comprising:

- (a) admixing compounds of elements A, V, N and X and at least one solvent to form a solution,

wherein A is at least one element selected from the group consisting of Mo and W, N is at least one element selected from the group consisting of Te and Se, and X is at least one element selected from the group consisting of Nb, Ta, Ti, Al, Zr, Cr, Mn, Fe, Ru, Co, Rh, Ni, Pt, Bi, B, In, Ce, As, Ge, Sn, Li, Na, K, Rb, Cs, Fr, Be, Mg, Ca, Sr, Ba, Ra, Hf, Pb, P, Pm, Eu, Gd, Dy, Ho, Er, Tm, Yb, Lu, Au, Ag, Re, Pr, Zn, Ga, Pd, Ir, Nd, Y, Sm, Tb, Br, Cu and Sc,

wherein A, V, N and X are present in such amounts that the atomic ratio of A : V : N : X is a : b : c : d, and

wherein, when a = 1, b = 0.01 to 1, c = 0.01 to 1 and d = 0.01 to 1;

- (b) admixing a seeding effective amount of an orthorhombic phase mixed metal oxide seed, substantially free of hexagonal phase mixed metal oxide, with said solution to form a seeded solution,
- (c) removing said at least one solvent from said seeded solution to form a catalyst precursor; and
calcining said catalyst precursor to obtain said orthorhombic phase mixed metal oxide catalyst.